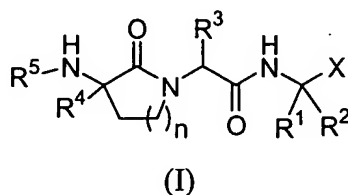


1. (Currently amended) A method for treating a cancer that is responsive to proteasome inhibition comprising administering to a mammal in need thereof, either alone or in combination with at least one other anticancer agent, a therapeutically effective amount of a compound of Formula I:



or a stereoisomer or pharmaceutically acceptable salt form thereof, wherein

the lactam ring of Formula (I) is substituted with 0-2 R<sup>b</sup>;

X is selected from the group:

B(OH)<sub>2</sub>, BY<sup>1</sup>Y<sup>2</sup>, and C(=O)C(=O)NHR<sup>1a</sup>;

Y<sup>1</sup> and Y<sup>2</sup> are independently selected from:

- a) -OH,
- b) -F,
- c) -NR<sup>18</sup>R<sup>19</sup>,
- d) C<sub>1</sub>-C<sub>8</sub> alkoxy, or

when taken together, Y<sup>1</sup> and Y<sup>2</sup> form:

- e) a cyclic boron ester comprising from 2 to 20 carbon atoms, and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O;
- f) a cyclic boron amide comprising from 2 to 20 carbon atoms and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O; or
- g) a cyclic boron amide-ester comprising from 2 to 20 carbon atoms and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O;

R<sup>1</sup> is selected from the group:

C<sub>1-10</sub> alkyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkenyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkynyl substituted with 0-3 R<sup>a</sup>; and  
C<sub>3-6</sub> cycloalkyl substituted with 0-3 R<sup>a</sup>;

R<sup>1a</sup> is selected from the group:

C<sub>1-10</sub> alkyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkenyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkynyl substituted with 0-3 R<sup>a</sup>; and  
C<sub>3-6</sub> cycloalkyl substituted with 0-3 R<sup>a</sup>;

R<sup>a</sup> is selected at each occurrence from the group:

C<sub>1-3</sub> alkyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CF<sub>3</sub>, OH, =O, C<sub>1-6</sub> alkoxy, SH, -S-C<sub>1-6</sub> alkyl;  
phenyl substituted with 0-3 R<sup>b</sup>;  
naphthyl substituted with 0-3 R<sup>b</sup>;  
-O-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-3 R<sup>b</sup>;  
-O-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-3 R<sup>b</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms selected from the group:  
O, S, and N, and substituted with 0-3 R<sup>b</sup>;

R<sup>b</sup> is selected at each occurrence from the group:

C<sub>1-6</sub> alkyl, Cl, F, Br, I, OH, C<sub>1-6</sub> alkoxy, -CN, -NO<sub>2</sub>, C(O)OR<sup>7</sup>, NR<sup>d</sup>R<sup>d</sup>, CF<sub>3</sub>, OCF<sub>3</sub>, and C<sub>3-6</sub> cycloalkyl;

R<sup>2</sup> is H;

alternatively, R<sup>1</sup> and R<sup>2</sup> combine to form a C<sub>3-5</sub> cycloalkyl group;

R<sup>3</sup> is selected from the group:

- C<sub>1-6</sub> alkyl substituted with 0-2 R<sup>a</sup>;
- C<sub>2-6</sub> alkenyl substituted with 0-2 R<sup>a</sup>;
- C<sub>2-6</sub> alkynyl substituted with 0-2 R<sup>a</sup>;
- (CH<sub>2</sub>)<sub>q</sub>-C<sub>3-6</sub> cycloalkyl substituted with 0-2 R<sup>a</sup>;
- (CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-2 R<sup>a</sup>;
- (CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-2 R<sup>a</sup>; and
- (CH<sub>2</sub>)<sub>q</sub>-5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms selected from the group:  
O, S, and N, and substituted with 0-2 R<sup>a</sup>;

R<sup>4</sup> is selected from the group:

- H;
- C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>b</sup>;
- phenyl substituted with 0-3 R<sup>b</sup>;
- benzyl substituted with 0-3 R<sup>b</sup>; and
- phenethyl substituted with 0-3 R<sup>b</sup>;

R<sup>5</sup> is H or Q-R<sup>5a</sup>;

Q is 0, 1, 2, or 3 amino acids;

R<sup>5a</sup> is selected from the group:

- S(O)R<sup>6</sup>, -S(O)<sub>2</sub>R<sup>6</sup>, -C(O)R<sup>6</sup>, -C(O)OR<sup>8</sup>, -C(O)NHR<sup>6</sup>, C<sub>1-3</sub> alkyl-R<sup>6a</sup>, C<sub>2-6</sub> alkenyl-R<sup>6a</sup>, and C<sub>2-6</sub> alkynyl-R<sup>6a</sup>;

R<sup>6</sup> is selected from the group:

- C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>c</sup>;

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group:  
O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>6a</sup> is selected from the group:

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group:  
O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>c</sup> is selected at each occurrence from the group:

C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, CF<sub>3</sub>, OCF<sub>3</sub>, Cl, F, Br, I, =O, OH, phenyl, C(O)OR<sup>7</sup>,  
NR<sup>d</sup>R<sup>d</sup>, -CN, and NO<sub>2</sub>;

R<sup>d</sup> is selected at each occurrence from the group:

H and CH<sub>3</sub>;

R<sup>7</sup> is selected at each occurrence from the group:

H and C<sub>1-6</sub> alkyl;

R<sup>8</sup> is selected from the group:

C<sub>1-6</sub> alkyl, benzyl, and C<sub>3-6</sub> cycloalkyl-methyl;

R<sup>18</sup> and R<sup>19</sup> at each occurrence are independently selected from H, C<sub>1-4</sub> alkyl, aryl(C<sub>1-4</sub> alkyl)-, and C<sub>3-7</sub> cycloalkyl;

n is selected from the group:

1, 2, and 3; and

q is selected the group:

0, 1, and 2.

2. (Original) The method according to claim 1 wherein:

Y<sup>1</sup> and Y<sup>2</sup> are independently selected from:

a) -OH,

b) C<sub>1</sub>-C<sub>8</sub> alkoxy, or

when taken together, Y<sup>1</sup> and Y<sup>2</sup> form:

c) a cyclic boron ester comprising from 2 to 20 carbon atoms;

R<sup>1</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-3 halogen; and

C<sub>2-6</sub> alkenyl substituted with 0-3 halogen;

R<sup>a</sup> is selected at each occurrence from the group:

C<sub>1-3</sub> alkyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CF<sub>3</sub>, OH, =O, C<sub>1-6</sub> alkoxy, SH, -S-C<sub>1-6</sub> alkyl;

phenyl substituted with 0-3 R<sup>b</sup>;

naphthyl substituted with 0-3 R<sup>b</sup>;

-O-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-3 R<sup>b</sup>;

-O-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-3 R<sup>b</sup>; and

5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms selected from the group:

O, S, and N, and substituted with 0-3 R<sup>b</sup>;

R<sup>b</sup> is selected at each occurrence from the group:

C<sub>1-6</sub> alkyl, Cl, F, Br, I, OH, C<sub>1-6</sub> alkoxy, -CN, -NO<sub>2</sub>, C(O)OR<sup>7</sup>, NR<sup>d</sup>R<sup>d</sup>, CF<sub>3</sub>,  
OCF<sub>3</sub>, and C<sub>3-6</sub> cycloalkyl;

R<sup>2</sup> is H;

R<sup>3</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkenyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkynyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-C<sub>3-6</sub> cycloalkyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-2 R<sup>a</sup>; and

-(CH<sub>2</sub>)<sub>q</sub>-5-10 membered heteroaryl consisting of carbon atoms and 1-4

heteroatoms selected from the group:

O, S, and N, and substituted with 0-2 R<sup>a</sup>;

R<sup>4</sup> is selected from the group:

H;

C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>b</sup>;

phenyl substituted with 0-3 R<sup>b</sup>;

benzyl substituted with 0-3 R<sup>b</sup>; and

phenethyl substituted with 0-3 R<sup>b</sup>;

R<sup>5</sup> is H or Q-R<sup>5a</sup>;

Q is 0, 1, 2, or 3 amino acids;

R<sup>5a</sup> is selected from the group:

-S(O)R<sup>6</sup>, -S(O)<sub>2</sub>R<sup>6</sup>, -C(O)R<sup>6</sup>, -C(O)OR<sup>8</sup>, -C(O)NHR<sup>6</sup>, C<sub>1-3</sub> alkyl-R<sup>6a</sup>, C<sub>2-6</sub> alkenyl-R<sup>6a</sup>, and C<sub>2-6</sub> alkynyl-R<sup>6a</sup>;

R<sup>6</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>c</sup>;  
phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group:  
O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>6a</sup> is selected from the group:

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group:  
O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>c</sup> is selected at each occurrence from the group:

C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, CF<sub>3</sub>, OCF<sub>3</sub>, Cl, F, Br, I, =O, OH, phenyl, C(O)OR<sup>7</sup>,  
NR<sup>d</sup>R<sup>d</sup>, -CN, and NO<sub>2</sub>;

R<sup>d</sup> is selected at each occurrence from the group:

H and CH<sub>3</sub>;

R<sup>7</sup> is selected at each occurrence from the group:

H and C<sub>1-6</sub> alkyl;

R<sup>8</sup> is selected from the group:

C<sub>1-6</sub> alkyl, benzyl, and C<sub>3-6</sub> cycloalkyl-methyl;

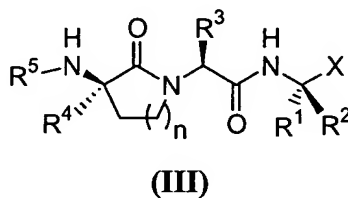
n is selected from the group:

1, 2, and 3; and

q is selected from the group:

0, 1, and 2.

3. (Original) A method for treating cancer comprising administering to a mammal in need thereof, either alone or in combination with at least one other anticancer agent, compound having Formula (III):



or a stereoisomer or pharmaceutically acceptable salt form thereof, wherein:

X is a boronic acid or a boron ester of formula BY<sup>1</sup>Y<sup>2</sup>;

Y<sup>1</sup> and Y<sup>2</sup> are independently selected from:

a) C<sub>1</sub>-C<sub>6</sub> alkoxy, or

when taken together, Y<sup>1</sup> and Y<sup>2</sup> form:

b) a cyclic boron ester comprising from 2 to 16 carbon atoms;

R<sup>1</sup> is selected from the group:

ethyl, n-propyl, i-propyl, n-butyl, allyl, 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, 4,4,4-trifluorobutyl, and 3-butenyl;



R<sup>a</sup> is selected at each occurrence from the group:

C<sub>1-3</sub> alkyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CF<sub>3</sub>, OH, =O, C<sub>1-6</sub> alkoxy, SH,

-S-C<sub>1-6</sub> alkyl;

phenyl substituted with 0-3 R<sup>b</sup>;

naphthyl substituted with 0-3 R<sup>b</sup>;

-O-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-3 R<sup>b</sup>;

-O-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-3 R<sup>b</sup>; and

5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms

selected from the group:

O, S, and N, and substituted with 0-3 R<sup>b</sup>;

R<sup>b</sup> is selected at each occurrence from the group:

C<sub>1-6</sub> alkyl, Cl, F, Br, I, OH, C<sub>1-6</sub> alkoxy, -CN, -NO<sub>2</sub>, C(O)OR<sup>7</sup>, NR<sup>d</sup>R<sup>d</sup>, CF<sub>3</sub>,

OCF<sub>3</sub>, and C<sub>3-6</sub> cycloalkyl;

R<sup>2</sup> is H;

R<sup>3</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkenyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkynyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-C<sub>3-6</sub> cycloalkyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-5-10 membered heteroaryl consisting of carbon atoms and 1-4

heteroatoms selected from the group:

O, S, and N, and substituted with 0-2 R<sup>a</sup>;

R<sup>4</sup> is selected from the group:

H, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, sec-butyl, t-butyl;  
phenyl substituted with 0-3 R<sup>b</sup>;  
benzyl substituted with 0-3 R<sup>b</sup>; and  
phenethyl substituted with 0-3 R<sup>b</sup>;

R<sup>5</sup> is H or Q-R<sup>5a</sup>;

Q is 0, 1, or 2 amino acids;

R<sup>5a</sup> is selected from the group:

-S(O)R<sup>6</sup>, -S(O)<sub>2</sub>R<sup>6</sup>, -C(O)R<sup>6</sup>, -C(O)OR<sup>8</sup>, -C(O)NHR<sup>6</sup>, C<sub>1-3</sub> alkyl-R<sup>6a</sup>, C<sub>2-6</sub>  
alkenyl-R<sup>6a</sup>, and C<sub>2-6</sub> alkynyl-R<sup>6a</sup>;

R<sup>6</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>c</sup>;  
phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group: O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>6a</sup> is selected from the group:

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group: O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>c</sup> is selected at each occurrence from the group:

C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, CF<sub>3</sub>, OCF<sub>3</sub>, Cl, F, Br, I, =O, OH, phenyl, C(O)OR<sup>7</sup>,  
NR<sup>d</sup>R<sup>d</sup>, -CN, and NO<sub>2</sub>;

R<sup>d</sup> is selected at each occurrence from the group:

H and CH<sub>3</sub>;

R<sup>7</sup> is selected at each occurrence from the group:

H and C<sub>1-6</sub> alkyl;

R<sup>8</sup> is selected from the group:

C<sub>1-6</sub> alkyl, benzyl, and C<sub>3-6</sub> cycloalkyl-methyl;

n is 1 or 2; and

q is selected from the group:

0, 1, and 2.

4. (Original) The method of claim 3 wherein:

X is a boronic acid or boron ester, wherein the ester is a diol selected from the group:

pinanediol, pinacol, 1,2-ethanediol, 1,3-propanediol, 1,2-propanediol, 2,3-butanediol, 1,2-diisopropylethanediol, 5,6-decanediol, and 1,2-dicyclohexylethanediol;

R<sup>1</sup> is selected from the group:

ethyl, n-propyl, i-propyl, n-butyl, allyl, 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, 4,4,4-trifluorobutyl, and 3-butenyl;

R<sup>2</sup> is H;

R<sup>3</sup> is selected from the group:

n-propyl, n-butyl, i-butyl, n-pentyl, neo-pentyl, cyclohexylmethyl,  
cyclopentylmethyl, phenyl, benzyl, t-butoxymethyl, benzyloxymethyl,  
hydroxymethyl, methoxymethyl, ethoxymethyl, propoxymethyl, and i-  
propoxymethyl;

R<sup>4</sup> is selected from the group:

methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, sec-butyl, t-butyl, phenyl,  
benzyl, and phenethyl;

R<sup>5</sup> is H or Q-R<sup>5a</sup>;

Q is 0, 1, or 2 amino acids;

R<sup>5a</sup> is selected from the group:

-S(O)<sub>2</sub>R<sup>6</sup>, -C(O)R<sup>6</sup>, -C(O)OR<sup>8</sup>, -C(O)NHR<sup>6</sup>, and -CH<sub>2</sub>-R<sup>6a</sup>;

R<sup>6</sup> is selected from the group:

methyl substituted with 0-3 R<sup>c</sup>;  
ethyl substituted with 0-3 R<sup>c</sup>;  
propyl substituted with 0-3 R<sup>c</sup>;  
butyl substituted with 0-3 R<sup>c</sup>;  
phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
quinolinyl substituted with 0-3 R<sup>c</sup>;

R<sup>6a</sup> is selected from the group:

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;

benzyl substituted with 0-3 R<sup>c</sup>; and  
quinolinyll substituted with 0-3 R<sup>c</sup>;

R<sup>c</sup> is selected at each occurrence from the group:

methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, methoxy, ethoxy,  
propoxy, i-propoxy, CF<sub>3</sub>, OCF<sub>3</sub>, Cl, F, Br, I, OH, phenyl, C(O)OH, NH<sub>2</sub>, -  
CN, and NO<sub>2</sub>;

R<sup>8</sup> is methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, phenyl, and benzyl; and

n is 1 or 2.

5. (Original) The method of claim 4 wherein:

X is a boronic acid or a boron ester of formula BY<sup>1</sup>Y<sup>2</sup>;

Y<sup>1</sup> and Y<sup>2</sup> are individually selected from C<sub>1</sub>-C<sub>6</sub> alkoxy, or when taken together, Y<sup>1</sup> and  
Y<sup>2</sup> form a cyclic boron ester where said chain or ring contains from 2 to 14  
carbon atoms;

R<sup>1</sup> is selected from the group:

ethyl, n-propyl, i-propyl, n-butyl, i-butyl, allyl, 2,2,2-trifluoroethyl, 2,2-  
difluoroethyl, 3,3,3-trifluoropropyl, 4,4,4-trifluorobutyl, and 3-butenyl;

R<sup>2</sup> is H;

R<sup>3</sup> is selected from the group:

i-butyl, neo-pentyl, cyclohexylmethyl, t-butoxymethyl, benzyloxymethyl,  
hydroxymethyl, benzyl and phenyl;

R<sup>4</sup> is selected from the group:

ethyl, n-propyl, i-propyl, R-2-butyl, S-2-butyl, phenyl, benzyl, and phenethyl;

R<sup>5</sup> is selected from the group:

H,  
benzyl,  
m-methylphenylsulfonyl,  
m-trifluoromethylphenylsulfonyl,  
p-i-propylphenylsulfonyl,  
p-propylphenylsulfonyl,  
p-t-butylphenylsulfonyl,  
p-carboxylphenylsulfonyl,  
4-(1,1')biphenylsulfonyl,  
1-naphthylsulfonyl,  
2-naphthylsulfonyl,  
8-quinolinylsulfonyl,  
pyrazin-2-ylcarbonyl,  
n-butylsulfonyl,  
N-phenylaminocarbonyl,  
N-(p-n-butylphenyl)aminocarbonyl,  
benzyloxycarbonyl,  
methoxycarbonyl,  
t-butyloxycarbonyl,  
benzoyl,  
methanesulfonyl,  
phenylsulfonyl,  
o-nitrophenylsulfonyl,  
m-nitrophenylsulfonyl, and  
m-aminophenylsulfonyl; and

n is 1 or 2.

6. (Original) The method according to claim 5 wherein:

X is a boronic acid or boron ester, wherein the ester is a diol selected from the group:

pinanediol, pinacol, 1,2-ethanediol, 1,3-propanediol, 1,2-propanediol, 2,3-butanediol, 1,2-diisopropylethanediol, 5,6-decanediol, and 1,2-dicyclohexylethanediol;

R<sup>1</sup> is selected from the group:

ethyl, n-propyl, i-propyl, n-butyl, i-butyl, allyl, 2,2,2-trifluoroethyl, 2,2-difluoroethyl, 3,3,3-trifluoropropyl, 4,4,4-trifluorobutyl, and 3-butenyl;

R<sup>2</sup> is H;

R<sup>3</sup> is selected from the group:

i-butyl, neo-pentyl, cyclohexylmethyl, t-butoxymethyl, benzyloxymethyl, hydroxymethyl, benzyl, and phenyl;

R<sup>4</sup> is selected from the group:

ethyl, n-propyl, i-propyl, R-2-butyl, S-2-butyl, phenyl, benzyl, and phenethyl;

R<sup>5</sup> is selected from the group:

H,  
benzyl,  
m-methylphenylsulfonyl,  
m-trifluoromethylphenylsulfonyl,  
p-i-propylphenylsulfonyl,  
p-propylphenylsulfonyl,  
p-t-butylphenylsulfonyl,  
p-carboxylphenylsulfonyl,  
4-(1,1')biphenylsulfonyl,

1-naphthylsulfonyl,  
 2-naphthylsulfonyl,  
 8-quinolinylsulfonyl,  
 pyrazin-2-ylcarbonyl,  
 n-butylsulfonyl,  
 N-phenylaminocarbonyl,  
 N-(p-n-butylphenyl)aminocarbonyl,  
 benzyloxycarbonyl,  
 methoxycarbonyl,  
 t-butyloxycarbonyl,  
 benzoyl,  
 methanesulfonyl,  
 phenylsulfonyl,  
 o-nitrophenylsulfonyl,  
 m-nitrophenylsulfonyl, and  
 m-aminophenylsulfonyl; and

n is 1 or 2.

7. (Original) The method according to claim 1 wherein said compound is selected from the group consisting of:

(1*R*)-1-((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl} amino)-2-oxo-1-pyrrolidiny)propanoyl} amino)-3-butenylboronic acid (+)-pinanediol ester;

(1*R*)-1-((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl} amino)-2-oxo-1-piperidiny)propanoyl} amino)-3-butenylboronic acid (+)-pinanediol ester;



(1*R*)-1-(((3-((methylsulfonyl)amino)-2-oxohexahydro-1*H*-azepin-1-yl}acetyl)amino)propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-2-(3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)-3-cyclohexylpropanoyl)amino}propylboronic acid (+)-pinanediol ester hydrochloride;

1*R*)-1-(((2*S*)-2-{3-(((1,1'-biphenyl)-4-ylsulfonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl}-3-cyclohexylpropanoyl)amino)propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)propanoyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-{3-isopropyl-3-((1-naphthylsulfonyl)amino)-2-oxo-1-pyrrolidinyl}propanoyl)amino)propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-2-{3-((anilinocarbonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl}-3-cyclohexylpropanoyl)amino)propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-(((3-methylphenyl)sulfonyl)amino)-2-oxo-1-pyrrolidinyl)propanoyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-(((3-methylphenyl)sulfonyl)amino)-2-oxo-1-pyrrolidinyl)propanoyl)amino}propylboronic acid

(1*R*)-1-(((3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;

- (1*R*)-1-(((3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester hydrochloride;
- (1*R*)-1-(((3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-pyrrolidinyl}(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((2*S*)-2-(3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl)-4-methylpentanoyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((2*S*)-2-(3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)-4-methylpentanoyl)amino}propylboronic acid (+)-pinanediol ester hydrochloride;
- (1*R*)-1-(((2*S*)-2-(3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-pyrrolidinyl)-4-methylpentanoyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((2*S*)-2-(3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)-4-methylpentanoyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-ethyl-3-(((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl}amino)-2-oxo-1-pyrrolidinyl)propanoyl}amino)-3-butenylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((2*S*)-2-(3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-piperidinyl)-3-cyclohexylpropanoyl)amino}propylboronic acid (+)-pinanediol ester;
- (1*R*)-1-(((3-((tert-butoxycarbonyl)amino)-3-isopropyl-2-oxo-1-piperidinyl}(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((3-amino-3-isopropyl-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid hydrochloride (+)-pinanediol ester;

(1*R*)-1-(((3-isopropyl-3-((methoxycarbonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((3-(benzoylamino)-3-isopropyl-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester; and

(1*R*)-1-(((3-isopropyl-3-(((3-methylphenyl)sulfonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid (+)-pinanediol ester;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-(((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl}amino)-2-oxo-1-pyrrolidinyl)propanoyl}amino)-3-butenylboronic acid;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-3-(((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl}amino)-2-oxo-1-piperidinyl)propanoyl}amino)-3-butenylboronic acid;

(1*R*)-1-(((3-((methylsulfonyl)amino)-2-oxohexahydro-1*H*-azepin-1-yl}acetyl)amino}propylboronic acid (+)-;

(1*R*)-1-(((2*S*)-2-(3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)-3-cyclohexylpropanoyl)amino}propylboronic acid;

1*R*)-1-(((2*S*)-2-{3-(((1,1'-biphenyl)-4-ylsulfonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl}-3-cyclohexylpropanoyl)amino}propylboronic acid;

(1R)-1-(((2*S*)-3-cyclohexyl-2-(3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)propanoyl)amino)propylboronic acid;

(1R)-1-(((2*S*)-3-cyclohexyl-2-{3-isopropyl-3-((1-naphthylsulfonyl)amino)-2-oxo-1-pyrrolidinyl}propanoyl)amino)propylboronic acid;

(1R)-1-(((2*S*)-2-{3-((anilinoacetyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl}-3-cyclohexylpropanoyl)amino)propylboronic acid;

(1R)-1-(((3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl)(phenyl)acetyl)amino)propylboronic acid;

(1R)-1-(((3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)(phenyl)acetyl)amino)propylboronic acid (+)-hydrochloride;

(1R)-1-(((3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-pyrrolidinyl)(phenyl)acetyl)amino)propylboronic acid;

(1R)-1-(((3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)(phenyl)acetyl)amino)propylboronic acid;

(1R)-1-(((2*S*)-2-(3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-pyrrolidinyl)-4-methylpentanoyl)amino)propylboronic acid;

(1R)-1-(((2*S*)-2-(3-amino-3-isopropyl-2-oxo-1-pyrrolidinyl)-4-methylpentanoyl)amino)propylboronic acid hydrochloride;

(1R)-1-(((2*S*)-2-{3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-pyrrolidinyl}-4-methylpentanoyl)amino)propylboronic acid;

(1*R*)-1-(((2*S*)-2-(3-isopropyl-2-oxo-3-(((4-propylphenyl)sulfonyl)amino)-1-pyrrolidinyl)-4-methylpentanoyl)amino}propylboronic acid;

(1*R*)-1-(((2*S*)-3-cyclohexyl-2-(3-ethyl-3-(((2*S*)-3-methyl-2-((2-pyrazinylcarbonyl)amino)butanoyl}amino)-2-oxo-1-pyrrolidinyl)propanoyl}amino)-3-butenylboronic acid;

(1*R*)-1-(((2*S*)-2-(3-(((benzyloxy)carbonyl)amino)-3-isopropyl-2-oxo-1-piperidinyl)-3-cyclohexylpropanoyl)amino}propylboronic acid;

(1*R*)-1-(((3-(((tert-butoxycarbonyl)amino)-3-isopropyl-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid;

(1*R*)-1-(((3-amino-3-isopropyl-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid hydrochloride;

(1*R*)-1-(((3-isopropyl-3-((methoxycarbonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid;

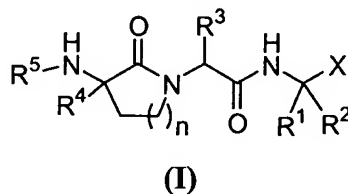
(1*R*)-1-(((3-(benzoylamino)-3-isopropyl-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid;

(1*R*)-1-(((3-isopropyl-3-((methylsulfonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid; and

(1*R*)-1-(((3-isopropyl-3-(((3-methylphenyl)sulfonyl)amino)-2-oxo-1-piperidinyl)(phenyl)acetyl)amino}propylboronic acid;

or a pharmaceutically acceptable salt form thereof.

8. (Original) A method for inhibiting proteasome which comprises contacting a mammal in need thereof with a therapeutically effective amount of a compound of Formula I:



or a stereoisomer or pharmaceutically acceptable salt form thereof, wherein:

the lactam ring of Formula (I) is substituted with 0-2 R<sup>b</sup>;

X is selected from the group:

B(OH)<sub>2</sub>, BY<sup>1</sup>Y<sup>2</sup>, and C(=O)C(=O)NHR<sup>1a</sup>;

Y<sup>1</sup> and Y<sup>2</sup> are independently selected from:

- a) -OH,
- b) -F,
- c) -NR<sup>18</sup>R<sup>19</sup>,
- d) C<sub>1</sub>-C<sub>8</sub> alkoxy, or

when taken together, Y<sup>1</sup> and Y<sup>2</sup> form:

- e) a cyclic boron ester comprising from 2 to 20 carbon atoms, and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O;
- f) a cyclic boron amide comprising from 2 to 20 carbon atoms and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O; or
- g) a cyclic boron amide-ester comprising from 2 to 20 carbon atoms and, optionally, 1, 2, or 3 heteroatoms which can be N, S, or O;

R<sup>1</sup> is selected from the group:

C<sub>1-10</sub> alkyl substituted with 0-3 R<sup>a</sup>;

C<sub>2-10</sub> alkenyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkynyl substituted with 0-3 R<sup>a</sup>; and  
C<sub>3-6</sub> cycloalkyl substituted with 0-3 R<sup>a</sup>;

R<sup>1a</sup> is selected from the group:

C<sub>1-10</sub> alkyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkenyl substituted with 0-3 R<sup>a</sup>;  
C<sub>2-10</sub> alkynyl substituted with 0-3 R<sup>a</sup>; and  
C<sub>3-6</sub> cycloalkyl substituted with 0-3 R<sup>a</sup>;

R<sup>a</sup> is selected at each occurrence from the group:

C<sub>1-3</sub> alkyl, C<sub>3-6</sub> cycloalkyl, Cl, F, Br, I, CF<sub>3</sub>, OH, =O, C<sub>1-6</sub> alkoxy, SH,  
-S-C<sub>1-6</sub> alkyl;  
phenyl substituted with 0-3 R<sup>b</sup>;  
naphthyl substituted with 0-3 R<sup>b</sup>;  
-O-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-3 R<sup>b</sup>;  
-O-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-3 R<sup>b</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group:  
O, S, and N, and substituted with 0-3 R<sup>b</sup>;

R<sup>b</sup> is selected at each occurrence from the group:

C<sub>1-6</sub> alkyl, Cl, F, Br, I, OH, C<sub>1-6</sub> alkoxy, -CN, -NO<sub>2</sub>, C(O)OR<sup>7</sup>, NR<sup>d</sup>R<sup>d</sup>, CF<sub>3</sub>,  
OCF<sub>3</sub>, and C<sub>3-6</sub> cycloalkyl;

R<sup>2</sup> is H;

alternatively, R<sup>1</sup> and R<sup>2</sup> combine to form a C<sub>3-5</sub> cycloalkyl group;

R<sup>3</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkenyl substituted with 0-2 R<sup>a</sup>;

C<sub>2-6</sub> alkynyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-C<sub>3-6</sub> cycloalkyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-phenyl substituted with 0-2 R<sup>a</sup>;

-(CH<sub>2</sub>)<sub>q</sub>-naphthyl substituted with 0-2 R<sup>a</sup>; and

-(CH<sub>2</sub>)<sub>q</sub>-5-10 membered heteroaryl consisting of carbon atoms and 1-4

heteroatoms selected from the group: O, S, and N, and substituted with 0-2 R<sup>a</sup>;

R<sup>4</sup> is selected from the group:

H;

C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>b</sup>;

phenyl substituted with 0-3 R<sup>b</sup>;

benzyl substituted with 0-3 R<sup>b</sup>; and

phenethyl substituted with 0-3 R<sup>b</sup>;

R<sup>5</sup> is H or Q-R<sup>5a</sup>;

Q is 0, 1, 2, or 3 amino acids;

R<sup>5a</sup> is selected from the group:

-S(O)R<sup>6</sup>, -S(O)<sub>2</sub>R<sup>6</sup>, -C(O)R<sup>6</sup>, -C(O)OR<sup>8</sup>, -C(O)NHR<sup>6</sup>, C<sub>1-3</sub> alkyl-R<sup>6a</sup>, C<sub>2-6</sub> alkenyl-R<sup>6a</sup>, and C<sub>2-6</sub> alkynyl-R<sup>6a</sup>;

R<sup>6</sup> is selected from the group:

C<sub>1-6</sub> alkyl substituted with 0-3 R<sup>c</sup>;

phenyl substituted with 0-3 R<sup>c</sup>;



naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group: O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>6a</sup> is selected from the group:

phenyl substituted with 0-3 R<sup>c</sup>;  
naphthyl substituted with 0-3 R<sup>c</sup>;  
benzyl substituted with 0-3 R<sup>c</sup>; and  
5-10 membered heteroaryl consisting of carbon atoms and 1-4 heteroatoms  
selected from the group: O, S, and N, substituted with 0-3 R<sup>c</sup>;

R<sup>c</sup> is selected at each occurrence from the group:

C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, CF<sub>3</sub>, OCF<sub>3</sub>, Cl, F, Br, I, =O, OH, phenyl, C(O)OR<sup>7</sup>,  
NR<sup>d</sup>R<sup>d</sup>, -CN, and NO<sub>2</sub>;

R<sup>d</sup> is selected at each occurrence from the group:

H and CH<sub>3</sub>;

R<sup>7</sup> is selected at each occurrence from the group:

H and C<sub>1-6</sub> alkyl;

R<sup>8</sup> is selected from the group:

C<sub>1-6</sub> alkyl, benzyl, and C<sub>3-6</sub> cycloalkyl-methyl;

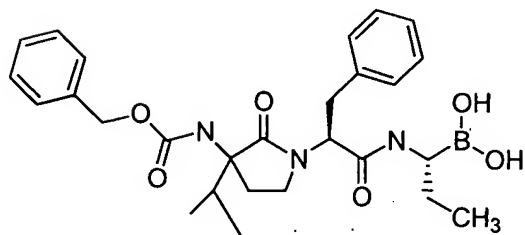
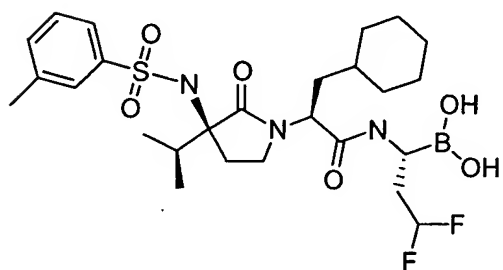
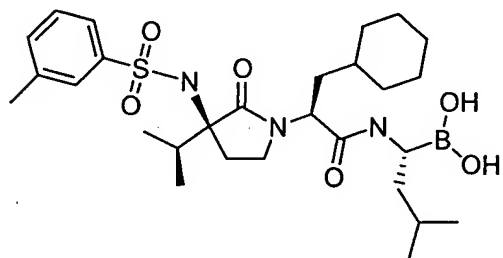
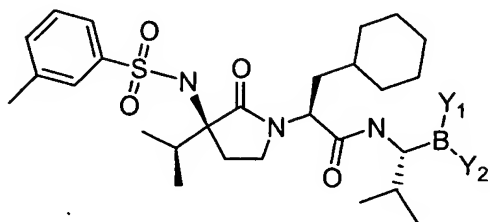
R<sup>18</sup> and R<sup>19</sup> at each occurrence are independently selected from H, C<sub>1</sub>-C<sub>4</sub> alkyl, aryl(C<sub>1</sub>-  
C<sub>4</sub> alkyl)-, and C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

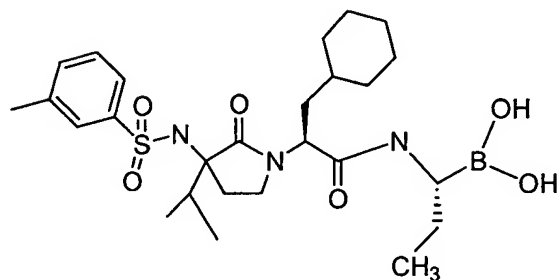
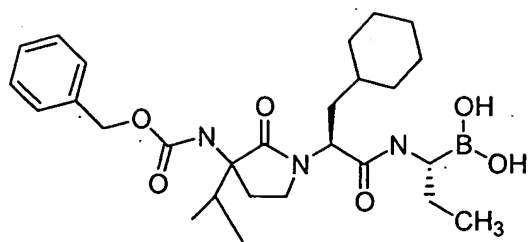
n is selected from the group:

1, 2, and 3; and

q is 0, 1, or 2.

9. (Original) The method of claim 8 wherein said compound is one of the following:





10. (Currently amended) A pharmaceutical composition comprising a therapeutically effective amount to reduce tumor growth rates, induce tumor regression or treat the symptoms of cancer of the compound of claim 1 and a pharmaceutically acceptable carrier.